

Work Order ID 93289

\*93289\*

Page 1

November-15-12 10:48:44 AM

Item ID: 646.3719

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Doubler

Start Date: 11/15/12 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12-11-12 Tooling:

Date:

Run Start

\*NR1\*

QC:

Date: SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.3700	A	0.00							
110									
*110*									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg								
6061 .063	Dwg Rev: A								
	Prog Rev: A								
	2-Deburr if necessary								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
*120*									
QC	Memo	0.00							
Quality Control									

20 0 Jm 12-11-24

20 0 Jm 12-11-24

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: Date:

QA Closed: Date:

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube			General							
	Bend	Grain	Ovalized	Pressure/Forced							
	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure							
	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld							
	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled							
	Contamination	Maintenance	Part Moved								
	Countersink	Mislabeled	Positioned Wrong								
	Cut Too Short	Misread	Power Loss/Surge								
	Drill Holes	Offset									
	Drawing	Out of Calibration									
	Finish	Out of Sequence									
	Folio	Outside Dimensions									

Work Order ID 93289

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Page 2

November-15-12 10:48:44 AM

Item ID: 646.3719

Accept

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Setup Start

\*NS1\*

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Stop

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Item Name: Doubler

Start Date: 11/15/12 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

\*130\*

QC

Quality Control

QC8- Inspect parts - second check

0.00

DAS  
15  
26

20

140

\*140\*

Outsource4

Outsource process - Anodize

Outsource process-Anodize per QSI017 4.1.10.1

0.00

PL 12-11-26

Memo

0.00

Issue P/O: 18504

HARD ANODIZE, COLOR BLACK AS PER DWG.(SEE NOTE 2 )

150

\*150\*

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Memo

0.00

Parry 12/11/12 (20)

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	<input type="checkbox"/>	Bend	<input type="checkbox"/>	Grain	<input type="checkbox"/>	Ovalized	<input type="checkbox"/>	Pressure/Forced			
Centre Not Concentric to O/S	<input type="checkbox"/>	BOM/Route	<input type="checkbox"/>	Hardware	<input type="checkbox"/>	Over/Under tolerance	<input type="checkbox"/>	Temperature/Cure			
Cracks	<input type="checkbox"/>	Broken/Damaged	<input type="checkbox"/>	Inspection Incomplete	<input type="checkbox"/>	Part Incorrect	<input type="checkbox"/>	Weld			
Crushed/Crimped.	<input type="checkbox"/>	Burrs	<input type="checkbox"/>	Instructions Incomplete/Unclear	<input type="checkbox"/>	Part Lost/Missing	<input type="checkbox"/>	Wrong Stock Pulled			
Cuffs	<input type="checkbox"/>	Contamination	<input type="checkbox"/>	Maintenance	<input type="checkbox"/>	Part Moved	<input type="checkbox"/>				
Heat Treat	<input type="checkbox"/>	Countersink	<input type="checkbox"/>	Mislabeled	<input type="checkbox"/>	Positioned Wrong	<input type="checkbox"/>				
Inspection Strip in Tube	<input type="checkbox"/>	Cut Too Short	<input type="checkbox"/>	Misread	<input type="checkbox"/>	Power Loss/Surge	<input type="checkbox"/>				
Ripples in Bend	<input type="checkbox"/>	Drill Holes	<input type="checkbox"/>	Offset	<input type="checkbox"/>		<input type="checkbox"/>	Other			
Torque Waves in Extrusion	<input type="checkbox"/>	Drawing	<input type="checkbox"/>	Out of Calibration	<input type="checkbox"/>		<input type="checkbox"/>				
Turning Sequence	<input type="checkbox"/>	Finish	<input type="checkbox"/>	Out of Sequence	<input type="checkbox"/>		<input type="checkbox"/>				
Wave/Twist in Tube	<input type="checkbox"/>	Folio	<input type="checkbox"/>	Outside Dimensions	<input type="checkbox"/>		<input type="checkbox"/>				

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Page 3

November-15-12 10:48:44 AM

Item ID: 646.3719

Accept

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\*NS2\*

Item Name: Doubler

Start Date: 11/15/12 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 12/07/12 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 <b>*160*</b> QC	QC5- Inspect part completeness to step on W/O Quality Control	0.00				20			DAS 05 9-63 12-12-23
170 <b>*170*</b> SprayPaint Spray Painting	Memo PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2) CARDINAL 4860-50 PRIMER BATCH: <u>123693</u>	0.00				20	0	0	A 12-12-31
180 <b>*180*</b> QC	QC14- Inspect Spray Paint Quality Control	0.00				20			DAS 05 9-63 13-01-05

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: Date:

QA Closed: Date:

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	General			Bend	General			Grain	Ovalized	Pressure/Forced	
Centre Not Concentric to O/S				BOM/Route				Hardware	Over/Under tolerance	Temperature/Cure	
Cracks				Broken/Damaged				Inspection Incomplete	Part Incorrect	Weld	
Crushed/Crimped.				Burrs				Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled	
Cuffs				Contamination				Maintenance	Part Moved		
Heat Treat				Countersink				Mislabeled	Positioned Wrong		
Inspection Strip in Tube				Cut Too Short				Misread	Power Loss/Surge		
Ripples in Bend				Drill Holes				Offset			
Torque Waves in Extrusion				Drawing				Out of Calibration			
Turning Sequence				Finish				Out of Sequence			
Wave/Twist in Tube				Folio				Outside Dimensions			



NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____		NCR No. _____									
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions							
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other							
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled							

# Picklist Print

November-15-12 10:48:43 AM

Page 1

Work Order ID: 93289

Parent Item: 646.3719

Start Date: 11/15/12

Required Date: 12/07/12

Parent Item Name: Doubler

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A 12.10.22 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.063 6061-T6 .063 Sheet		Purchased	No			110	sf	394.2238	0.02778	0.5848421 0.6		JM 12-11-25	

Location	Loc Qty	Loc Code
MAT021	394.2238320	
113608	0	
116308	5.01556842	
117285	67.544	
119331	44.2	
119802	3.94	
120218	15.86	
120866	64.8126316	
121805	113.551632	
123135	79.3	123135

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending				Bend <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced				
Centre Not Concentric to O/S				BOM/Route <input type="checkbox"/>	Hardware <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure				
Cracks				Broken/Damaged <input type="checkbox"/>	Inspection Incomplete <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>				
Crushed/Crimped.				Burrs <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
Cuffs				Contamination <input type="checkbox"/>	Maintenance <input type="checkbox"/>	Part Moved <input type="checkbox"/>					
Heat Treat				Countersink <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
Inspection Strip in Tube				Cut Too Short <input type="checkbox"/>	Misread <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>					
Ripples in Bend				Drill Holes <input type="checkbox"/>	Offset <input type="checkbox"/>	Other <input type="checkbox"/>					
Torque Waves in Extrusion				Drawing <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>						
Turning Sequence				Finish <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>						
Wave/Twist in Tube				Folio <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>						

**DART AEROSPACE LTD**

**Work Order:**

93289

**Description:** Possible

**Part Number:**

6046.3719.

**Inspection Dwg:** (046-330) **Rev:**

Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

10

15

Measured by:	JM
Date:	12-11-25

**Audited by:** 15  
Date: 89

**Preliminary Approval:** \_\_\_\_\_

## NOTES:

- △ MATERIAL: ALUMINUM 6061-T6 PER AMS-QQ-A-250/11
- △ FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III  
CLASS 2, COLOR BLACK  
CARDINAL 4860-50 PRETREATMENT PRIMER  
PRIME IAW MIL-P-23377J TYPE I CLASS N
- △ MATERIAL: 17.4 PH AMS 5604, CONDITION H900
- △ FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
5. DEBURR AND BREAK ALL SHARP EDGES
  6. IDENTIFY IAW MPP-120

SPECS

DRAFTING

UNCOATED

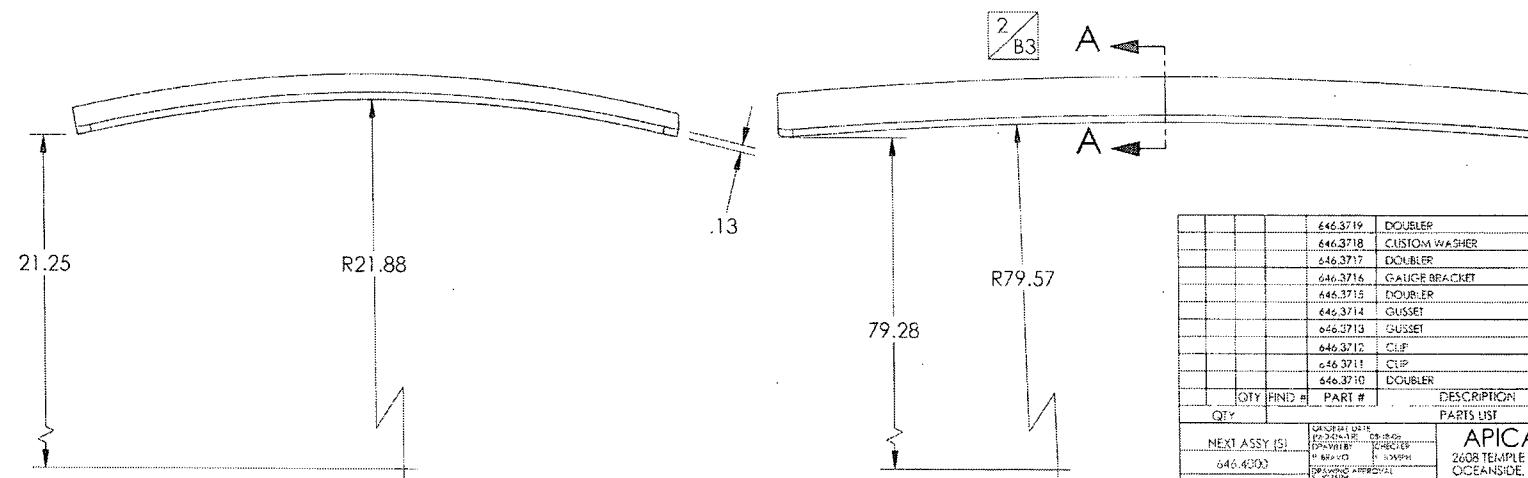
SUBJECT

WITH

W.L.

93289 ML5  
12-11-15

646.3710



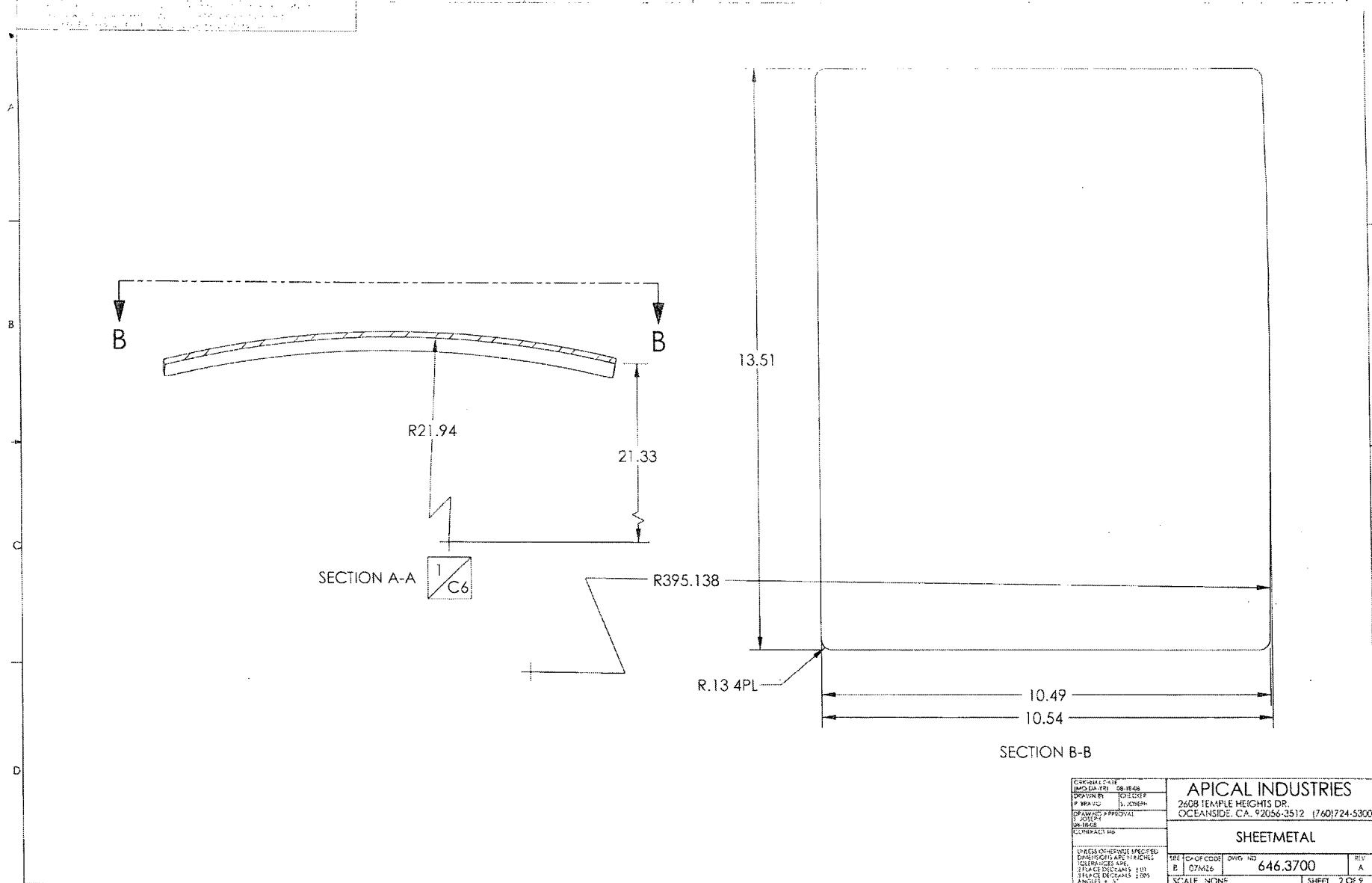
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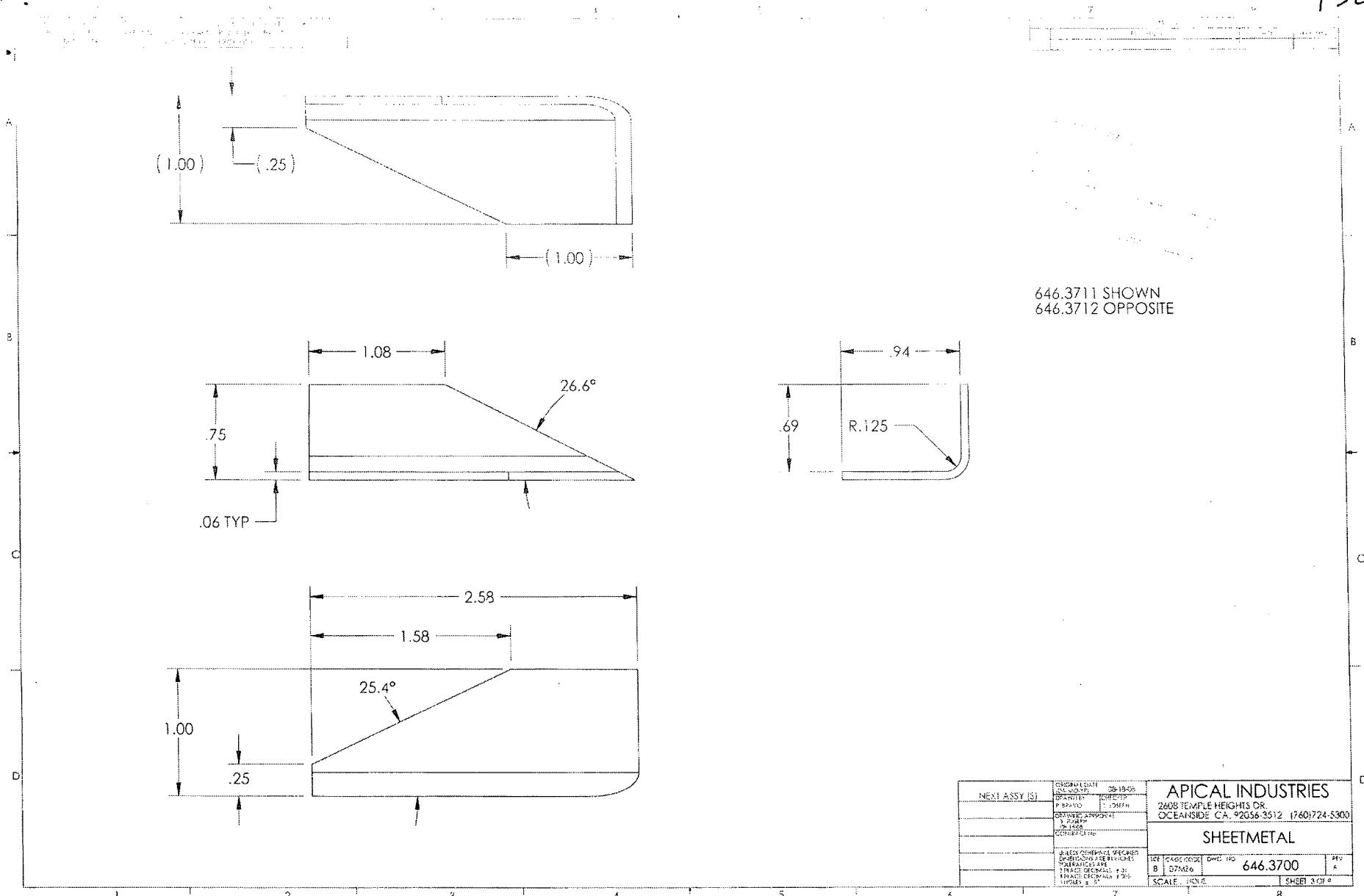
A

QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
				PARTS LIST	
		646.3719	DOUBLER		
		646.3718	CUSTOM WASHER		
		646.3717	DOUBLER		
		646.3716	GALICE BRACKET		
		646.3715	DOUBLER		
		646.3714	GUSSET		
		646.3713	GUSSET		
		646.3712	CLIP		
		646.3711	CLIP		
		646.3710	DOUBLER		
DRAWING APPROVAL DATE: 12-11-15 CUTTER: Km					
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512   760.724.5300					
SHEETMETAL					
DRAWING NUMBER: 646.3700 EFFECTIVE DATE: 12-11-15 EXPIRATION DATE: 12-11-16 REVISION: 0 PLATE NUMBER: 001 FILE NUMBER: 001 PAGE NUMBER: 001					
SCALE: NONE					
1 SHEET 1 OF 9					

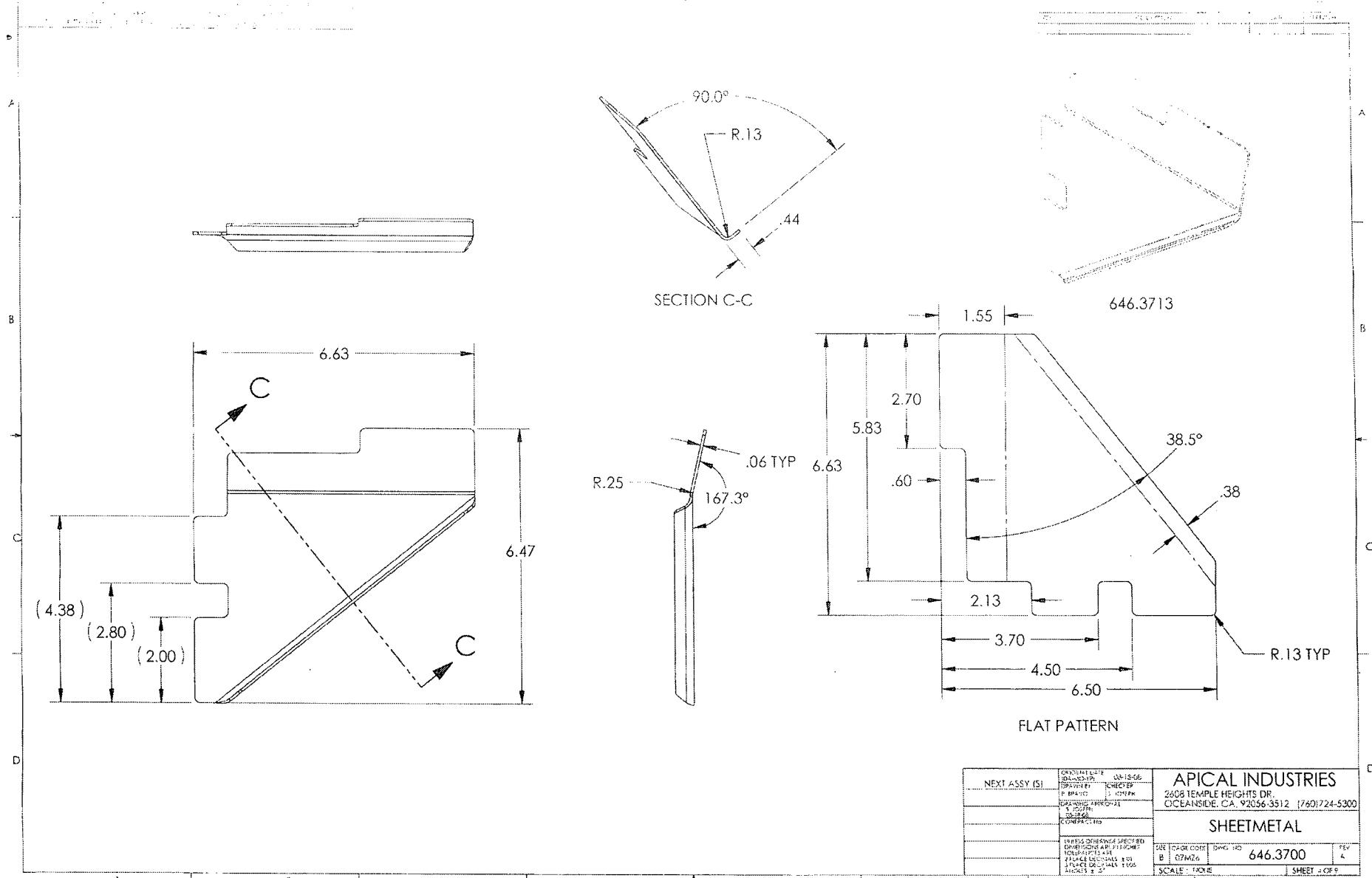
93289



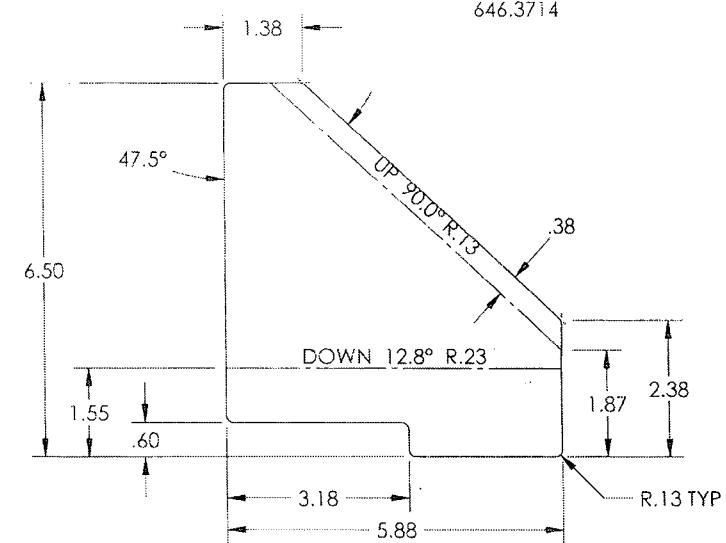
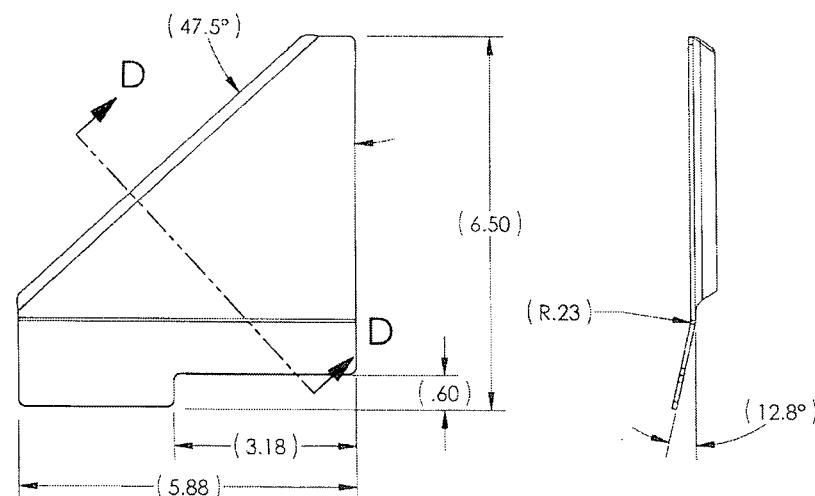
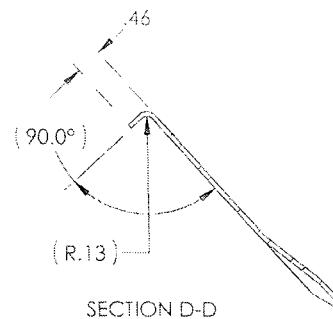
93289



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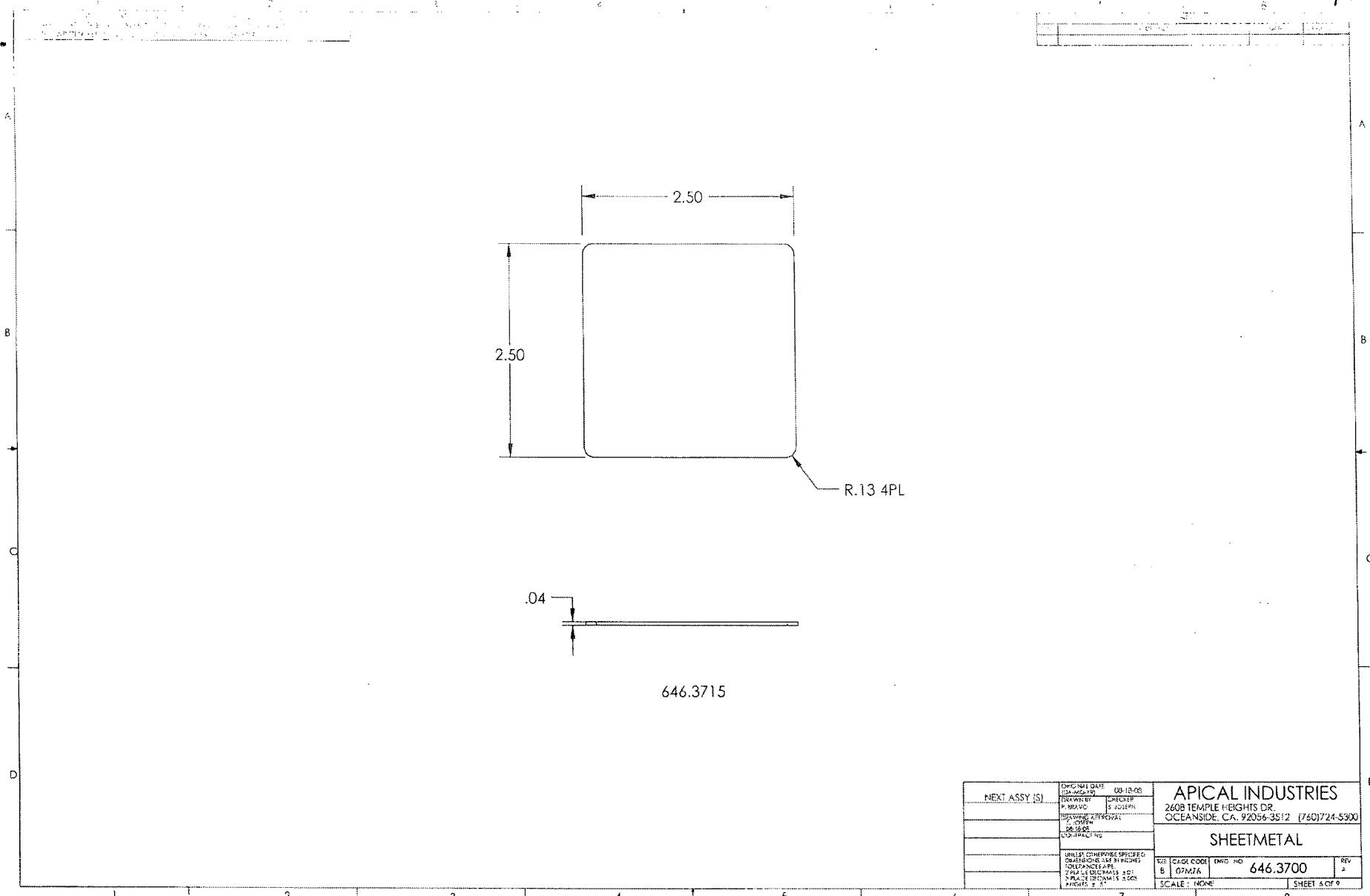


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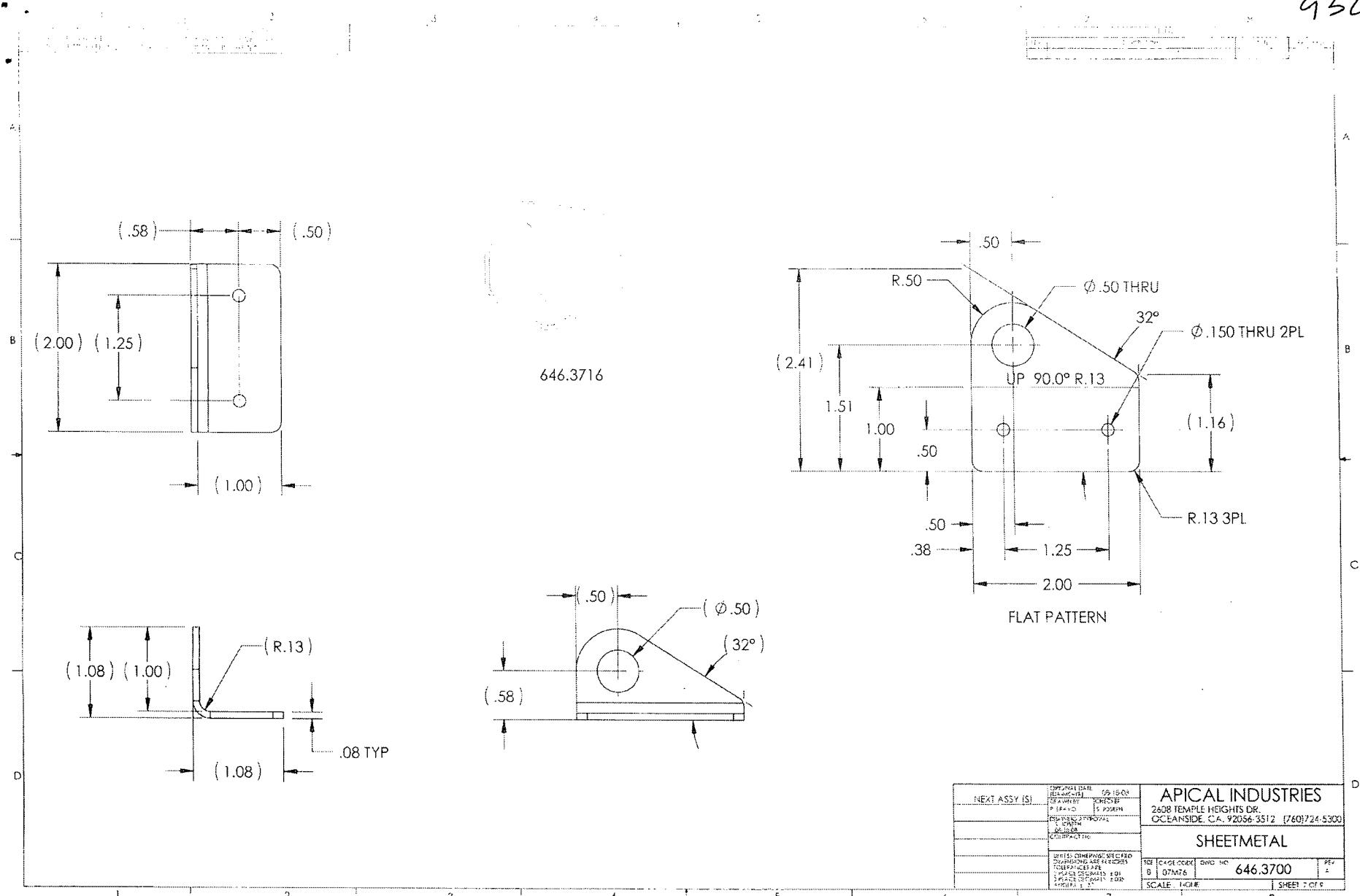


APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300
SHEETMETAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ALL ANGLES ARE IN DEGREES PLATES DECKLADY 800 STAINLESS STEEL
SIZE GAGE EDGE D.M.G. NO. 646.3700 REV. A
B 07M16 SCALE NONE SHEET 5 OF 9

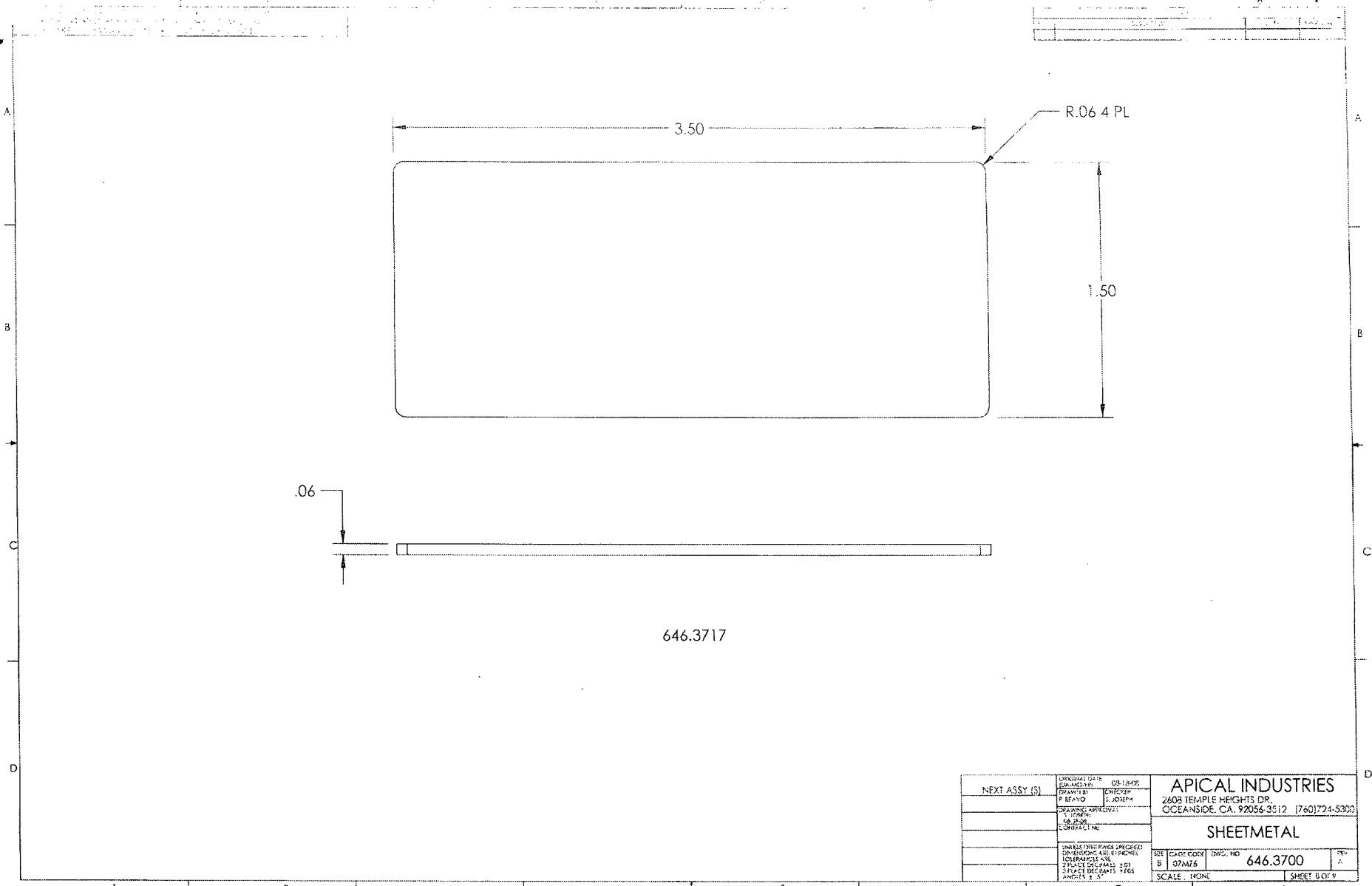
93289



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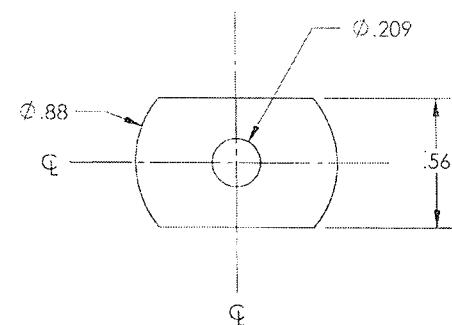


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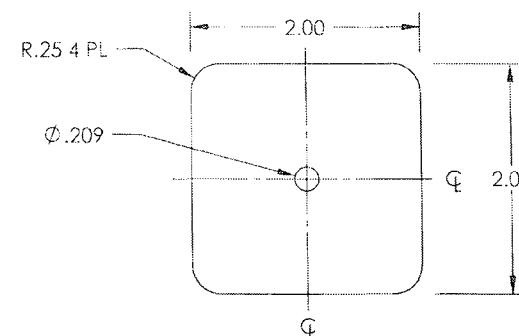
100% DRAWN  
100% INSPECTED  
100% TESTED

100% DRAWN  
100% INSPECTED  
100% TESTED

A



B



C

646.3719

D

NEXT ASSY (S)		DRAWN BY	CHG 10/08
		P. SPANU	J. JOSEPH
		DRAWING APPROVAL	
		T. J. SPANU	
		PROFECT NO.	
UNLESS OTHERWISE SPECIFIED LASHINGS AND SPLICES PLACE DIMMERS 100' ANGLE 2.5°			
REV	CASE CODE	DRAW. NO.	
B	071426	646.3700	A
SCALE: 1:100 SHEET 9 OF C			

**APICAL INDUSTRIES**  
2608 TEMPLE HEIGHTS DR.  
OCEANSIDE, CA. 92056-3512 (760)724-5300

**SHEETMETAL**



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 62107

Date: 12-Dec-12

#### To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

#### Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via
Quantity	Description
1 lot	Part: ASST  8 PCS 647.1610 5 PCS 647.1612 2 PCS 647.1713 6 PCS 647.1811 1 PC 647.1816 1 PC 647.1817 8 PCS 647.1818 11 PCS 646.3210 20 PCS 646.3313 10 PCS 646.3717 <del>20 PCS 646.3717</del> <i>3719</i> 16 PCS 647.4610 10 PCS 649.4811 10 PCS 649.4812 24 PCS 649.4814 30 PCS 649.4815 6 PCS 647.7913 3 PCS 647.7919 10 PCS 647.9010 10 PCS 647.9011 15 PCS 647.9012 40 PCS 647.9013 60 PCS 646.9710  HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2
	Rev:  PO: PO18506 Line:  Certificate of Conformance  A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.
	ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY  DATE: <u>12/12/12</u>



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

Pack List

Number: 62107

Date: 12-Dec-12

To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms	Ship Via

Quantity	Description
	CERTIFIED SIGNATURE: <u>Mr</u> RECEIVER SIGNATURE: <u>R. Coffey</u>